



Animal Behavior Bulletin

VOLUME 11, ISSUE 3

SUMMER 2008

INSIDE THIS ISSUE

- Director's Message
- REU Summer research
- Member News

NEWS STORIES IDEAS

IF YOU HAVE NEWS YOU WANT TO SHARE WITH THE CISAB COMMUNITY CONTACT US AT:

lisummer@indiana.edu

Or

855-9663

Fall Speakers

ANDREW H. BASS:
Cornell University
Friday, September 26
4:00 PM Myers Hall,
room 130
(Co-sponsored with
Ecology & Evolution of
Behavior Seminar Se-
ries)

GERALD POLLACK:
Mc Gill University
Friday, October 3
4:00 PM Myers Hall,
room 130
(Co-sponsored with
Ecology & Evolution of
Behavior Seminar Se-
ries)

**JOAN ROUGHGAR-
DEN:**
Stanford University
Friday, October 17
5:00pm Whittenberger
Auditorium

DAVID PERKEL:
University of Washing-
ton
Friday, October 17
12:15 PM Glenn Black



Lab 101 (Mathers Mu-
seum)

ALBERT FENG:
University of Illinois Ur-
bana Champaign
Friday, March 21
4:00 PM Jordan Hall 009
Co-sponsored with
Medical Sciences Pro-
gram

**AYAKO YAMAGU-
CHI:** Boston University
Friday, November 21
12:15 PM Glenn Black
Lab 101 (Mathers Mu-
seum)

CISAB is New Home for ABS

On July 11, CISAB be-
came the home of the
**Animal Behavior Socie-
ties** central office. The
society promotes and
encourages the study of
animal behavior and co-
publishes the prestigious

journal, *Animal Behav-
iour*.

The ABS has members
from around the world,
mainly from North, Cen-
tral and South America
and sponsors a yearly

conference to highlight
animal behavior re-
search.

CISAB welcomes the
ABS staff, Lori Pierce
and Kris Bruner.

Director's Message



Greetings to the CISAB community! Once again, summer is moving on all too quickly and another academic year is fast upon us. I hope everyone's summer has been both enjoyable and productive. I'd like to take the opportunity to fill you in on some of the happenings within CISAB since the last Bulletin.

After years of dedicated service to CISAB, Dr. Sue Linville is leaving us for new adventures with her husband Steve Ramey in the greater Pittsburgh area. As many of you know, Sue served as the coordinator of our Animal Behavior Internship program which provides hands-on experience for undergraduates to involve themselves in animal behavior at places like the Indianapolis Zoo, the Exotic Feline Rescue Center, and the Bloomington Animal Shelter. Sue played an integral role in developing this fledgling program into the highly successful program it is today. Sue regularly supervises several interns per semester and some of these students have even returned to participate in second internships. In addition, Sue was responsible for keeping us all informed with the quarterly Animal Behavior Bulletins and helped us maintain our website. I'd like to express sincere gratitude for all of Sue's efforts; we wish her and Steve the best of luck in their future endeavors.

The central office of the Animal Behavior Society (ABS), which publishes the journal *Animal Behaviour*, has moved into the CISAB house. The society was previously housed over on 10th and the Bypass but due to some reorganization both the ABS and CISAB agreed that relocation to within the center's walls would be mutually beneficial. Their operations moved officially at the end of July and we welcome them as a great addition to the CISAB house. The office is currently staffed by **Kris Bruner and Lori Pierce**, so please swing by and say hello if the opportunity arises.

We have recently developed a more formal relationship with the local public broadcast station WTIU which produces the program "A Moment of Science (AMOS)", which airs short pieces of interesting science for the public. Although IU faculty, students, and staff have contributed to these in the past, we are now regularly providing scripts to them that will be aired under the supervision of CISAB. Both Sue Linville and CISAB alumnus Sue Anne Zollinger have written scripts for us. In fact Sue Anne is currently employed by AMOS and has offered to continue to write scripts for CISAB; we are looking forward to a continuing relationship with WTIU in this regard. If you have your own ideas for interesting scripts, please contact us.

Once again, the REU program was a wonderful success this summer

(Continued on page 6)

*"When you have
seen one ant, one
bird, one tree, you
have not seen them
all."*

Edward O. Wilson

REU SUMMER 2008 RESEARCH



GILDA BOBELE: “The effect of endocannabinoids on carbachol induced contractions in the rat uterus.” Mentor, Dr. Heather Bradshaw, Dept. of Psychological and Brain Sciences

KEN FORMBY: “Sexually dimorphic communication behaviors in *Sternarchogiton natteri*.” Mentors, Dr Troy Smith and Winnie Ho, Dept. of Biology

LORNA MORENO: “Variation of signal detection in *Sceloporus undulates* lizards.” Mentors, Dr. Emilia Martins and Saul Nava, Dept. of Biology

JESSIE RACK: “Sexual dimorphism of electrocommunication signals across populations of weakly electric fish, *Apteronotus albifrons*.” Mentors, Dr. Troy Smith and Winnie Ho, Dept. of Biology

KATIE REIMINK: “Nicotine entrainment treated with mecamylamine decreased post-injection activity.” Mentors, Dr. William Timberlake and Andrea Gillman, Dept of Psychological and Brain Sciences

SOPHIA ROBERTS: “Regulatory competence in mice.” Mentor, Dr. Jeffrey Alberts, Dept of Psychological and Brain Sciences.

HEATHER VEGA: “The role of social feedback in gesture production of 14-18 month-old infants and their caregivers.” Mentors, Dr. Meredith West and Jennifer Miller, Dept. of Psychological and Brain Sciences

CASSANDRA WALDMAN: “The effect of the environment and shoal composition on the behavior of zebrafish (*Danio rerio*).” Mentors, Drs. Emilia Martins and Anuradha Bhat, Dept. of Biology

KELLY ZALOCUSKY: “Functional subdivisions of the medial amygdale in male zebra finches (*Taeniopygia guttata*).” Mentor, Dr. James Goodson, Dept. of Biology





Jessie Rack

My REU at Indiana University this summer has been an amazing, eye-opening learning experience. Coming into the program, I knew that I was interested in animal behavior, and that I wanted to understand the underlying mechanisms that living creatures share. My personal goal for the summer was primarily to gain the valuable research experience provided by IU, but, equally as important, to attempt to narrow my focus for future studies. My time here has been exactly what I needed to see what the world of professional science will be like.

For me, the best part of my REU experience has been the camaraderie with my lab mates and the support and patience they have demonstrated when faced with my many (many!) questions and concerns about my project. My mentor has been amazing, and has never complained about dropping everything to help me through a task or technique. I would absolutely recommend this program to others, because it offers the opportunity to function as a graduate student, and to experience what hands-on research in animal behavior is really all about. The freedom to use techniques and ask one's own questions in a lab setting is invaluable to developing autonomy as a scientist. I know now that I will be able to succeed in graduate school, and I will carry this confidence back with me to my home institution.

Gilda Bobele

As a rising senior, my post-graduation plan for graduate school had been decided before I first arrived in Bloomington. Although I've had substantial research experience in the Biochemistry Department at my home institution, I was eager for the opportunity to pursue a line of research to which I had never been exposed: Animal Behavior. Soon into the program, however, a storm took out power to my research building work in the lab was suspended for several days as sorting the resulting jumble of newly perished cell lines and stressed animals became priority. While unfortunate, the ordeal provided a very practical lesson about research: sometimes events beyond anyone's control can drastically change protocol, and the consequences must be dealt with as best as possible. It was amazing to see how the entire lab pulled together when things went wrong, and my mentor was unbelievably calm and in control of the situation.

In fact, she has become a very strong female role model for me. I hadn't expected a PI to take such interest in a summer undergraduate, but she made herself constantly available and checked in on my project and interests almost daily. The pleasant surprise of such a quality mentor has made my summer experience an exceptional one, from which I will take a great deal home with me in August.

Heather Vega

What I enjoyed most from my REU experience was meeting so many wonderful people. The mentors are great and they make research enjoyable, but it has to be since you spend so much time doing it. Although there is a lot of work involved in the REU program, there is still time to explore the town and take the trips that the program has planned for us, for example, the trips to the Exotic Feline Rescue Center and to the Indianapolis Zoo. I have thoroughly enjoyed my experience this summer, and I would recommend it to anyone.



Sophia Roberts

Bloomington offers the sense of a small town but still provides the amenities of a large university. As a student from a small college situated in an even smaller feeling town' Indiana struck a balance I couldn't be happier with. My fellow REU students and I have become great friends and enjoy the wonderful summer events. The summer musical festival was an exceptionally wonderful treat. It presents both the student orchestra and a diverse line of professional musicians.

The Animals Behavior REU is unique in its services to help students get ready for graduate school. GRE prep classes are free as effective writing and presentation seminars. Because IU is a large research school' it provides access to people top in the Animal Behavior field and that includes the mentors and their colleagues. The summer is a great time to focus on research without the hassle of taking classes simultaneously. I have been able to concentrate on new research skills and still have plenty of time for fun!



Katie Reimink

Needless to say, I was not exactly excited to spend my summer in landlocked Indiana. But I was pleasantly surprised with what Bloomington has to offer. Not only does the program offer trips to Bloomington's WonderLab, the Indianapolis Zoo, and the Exotic Feline Rescue Center, but there are plenty of other options for weekend activities in the area. Every Saturday the local farmers' market is open with delicious fresh produce, the campus has an outdoor 50 m pool facility, and Lake Griffy is very close to campus which offers hiking trails and kayaks for rent. Plus, Bloomington has an all girls roller derby team which competes at home about once a month. This was a sport I was previously unaware of, but it definitely makes for an entertaining evening!

On a more serious note, the Animal Behavior REU program has really opened my eyes to the world of academia. Animal Behavior is an interesting area of study because of how interdisciplinary the work is. I worked with Dr. Timberlake's lab, which in itself was diverse in the projects run by the grad students. I really like this aspect of my lab because I was able to see different types of research, from learning to drug abuse. I am grateful for my graduate mentor, Andrea Gillman, because she taught me a lot about how research is run, data processing and all. She made me feel autonomous in my project with her. I felt as though I was completely responsible for my research and trusted in what I was doing. Overall, this program has been a great experience for me and has helped me sort through some tough questions about graduate school and the research profession in general.

(Continued from page 2)

bringing students from across the country (as well as an international student) to Bloomington for several months of science and fun. Many thanks to all the faculty, postdoctoral fellows, and graduate students who served as mentors; it is your commitment to the program that makes it such a success. In addition, I would like to offer a special thanks to Linda Summers whose tireless efforts and “can-do” spirit ensured that the program ran smoothly. Thanks also goes to Bill Timberlake for serving as the director of the program for the last three years. Lastly, as many of you know, thanks to Emilia Martins’ efforts, we have begun the process of renewing the NSF grant, so we hope to continue this important program for years to come. Of course, your continued support in this program will be critical to its ongoing success.

As the dawn of the fall semester approaches (despite the 90 degree August haze outside my office window as I write this), I want to call your attention to a couple of important dates to put on your calendar now that it is relatively open and ink-free. First, I would like to invite everyone to the CISAB fall Open House which will take place on September 4, noon-1:30, at the CISAB house. As usual, pizza and refreshments will be provided. Second, we have a special seminar by evolutionary biologist Dr. Joan Roughgarden that is scheduled for October 17th. I also call your attention to the slate of wonderful speakers Troy Smith and Rod Suthers have lined up as part of this year’s A501 in Neuroethology. There will be no shortage of interesting CISAB-sponsored talks, workshops and activities this coming year. More details on these talks and other events will appear throughout the semester. As always, I wish everyone the best for a healthy, happy and productive 2008-09 school year.

“If we use
excessively
elaborate
apparatus to
examine simple
natural
phenomena,
nature herself may
escape us”
Karl von Frisch



Jennifer Cianciolo defended her dissertation, **Evolutionary Persistence and Co-existence of Sexual and Asexual Oribatid Mites**, June 13th. Jennifer examined $\beta 2$ tubulin, a testis-specific gene, in order to test whether asexual oribatid mite species found in entirely asexual higher monophyletic taxa are *ancient asexuals*. If all female species are truly asexual, $\beta 2$ tubulin should be evolving neutrally, while $\beta 1$ tubulin, which has numerous structural functions, should not. Since asexual oribatid species also occur in primarily sexual genera, there is likely an age-structure of asexuals within the suborder. She used third-codon degeneracy in $\beta 1$ tubulin to determine relative ages of oribatid asexuals and worked on isolating $\beta 1$ and $\beta 2$ tubulin, as the sequences in mites was not known. Since sexual and asexual oribatid species overlap locally in distribution and any square meter of temperate forest soil is likely to have hundreds of thousands of individuals in up to 200 species, she studied experimental habitat enclosures to determine if asexual or sexual groups had a colonization advantage.

Idelle Cooper was awarded the **W.D. Hamilton Award** at the recent Evolution conference for the best student presentation. A member of Curt Lively's lab, Idelle is interested in the evolutionary cause and maintenance of sex differences. Her research studies the role of natural selection in the evolution of color variation in Hawaiian *Megalagrion* damselflies (Odonata: Coenagrionidae). Although most species in this genus exhibit sexual dimorphism in color (red males and green females), some species contain a female-limited dimorphism in which the male color is expressed by some females. Such female-limited dimorphisms are common in odonates, but the adaptive significance remains unknown. By looking at variation in selection of a female-limited dimorphism and by examining patterns of color and ecological niche type in the *Megalagrion* damselfly phylogeny, Idelle is evaluating the potential significance of natural selection in the evolution of sexual dimorphism.



Melissa-Ann Scotti, a member of the Demas Lab, defended her dissertation, **The Neuroendocrine Mediation of Aggression in Siberian Hamsters (*Phodopus sungorus*)** on June 27th. She discussed the study of aggressive behavior and its relationship to the gonadal steroid testosterone. Since the study of aggressive behavior has traditionally focused on males and female aggression has remained relatively unexplored, the goal of Melissa's dissertation research was to investigate the neuroendocrine regulation of male and female aggression in a rodent model displaying naturally-occurring seasonal fluctuations in aggression. She examined the roles of gonadal and adrenal steroid hormones (i.e. cortisol and dehydroepiandrosterone (DHEA)) in the mediation of aggressive behavior in, Siberian hamsters (*Phodopus sungorus*). The results of her studies suggested that neither circulating cortisol nor DHEA alone mediate increases in non-breeding aggression. However, female Siberian hamsters did show increases in aggression in short days and, as has been previously shown for males, this increase does not seem to be mediated by gonadal steroids. Collectively, her investigations have allowed more inclusive insight into the neuroendocrine mechanisms underlying complex social behaviors. Melissa is moving on to the University of Wisconsin at Madison where she will be doing a post-doc with Stephen Gammie.



**Center for the Integrative
Study of Animal Behavior**

Indiana University
402 N Park Ave
Bloomington, IN 47405
Phone: 812-855-9663
E-mail: cisab@indiana.edu

*The Animal Behavior Bulletin is copyrighted by
CISAB and Indiana University. Unless otherwise
noted, all text is written by Susan U. Linville, PhD*

Behavior Related Meetings

Animal Behavior Society

Snowbird, UT, Aug 16-20

**10th International Conference
on Cognitive Neuroscience**

Bodrum, Turkey, September 1-5

Midwest Primate Interest Group

University of Notre Dame,
Sept 19-20

Evolutionary Biology Congress

Marseilles, France
Sept 24-26

**International Society for Com-
parative Psychology**

Buenos Aires, Argentina
Oct 9-11

2009 Meetings

Animal Behavior Society

Pirenopolis, Brazil
June 22-26, 2009

**Society of Behavioral Neuroen-
docrinology**

Michigan State
June 25-27, 2009

**International Society for Applied
Ethology Congress**

Cairns, Australia
July 6-10, 2009

CogSci 2009

Free University, Amsterdam
July 3- Aug 1, 2009

